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ORIGINAL ARTICLES.

A CASE OF ALMOST SYMMETRICAL PAPILLOMA-LIKE TUMORS OF THE CONJUNCTIVA OF BOTH EYES.

By W. A. SHOEMAKER, M.D.,

ST. LOUIS, MO.

HISTOLOGICAL EXAMINATION AND DESCRIPTION.

By ADOLF ALT, M.D.,

ST. LOUIS, MO.

HERMAN E., 40 years of age, consulted me on February 6th, giving the following history: He has had inflamed eyes for twenty-five years, and has, on account of something which had grown over it, not been able to see with the right eye for one year. The vision of the left eye is good. He has no headaches, pain in the eyes, secretion, lachrymation, or photophobia. The general health is good.

Present Condition: Right eye: A pale, yellowish tissue, with a xerotic appearance, about 2 mm. in thickness, and 7 mm. in width, extends horizontally across the cornea from limbus to limbus. A round, granular mass, 4 mm. in diame-

ter, and 2 or 3 mm. thick, encroaches upon this tissue at the sclero-corneal margin on the temporal side. A number of enlarged conjunctival vessels run to the growth from the outer and inner canthus. The palpebral conjunctiva is in a smooth, atrophic, and moderately contracted condition, the result of former trachoma. V. = perception of light.

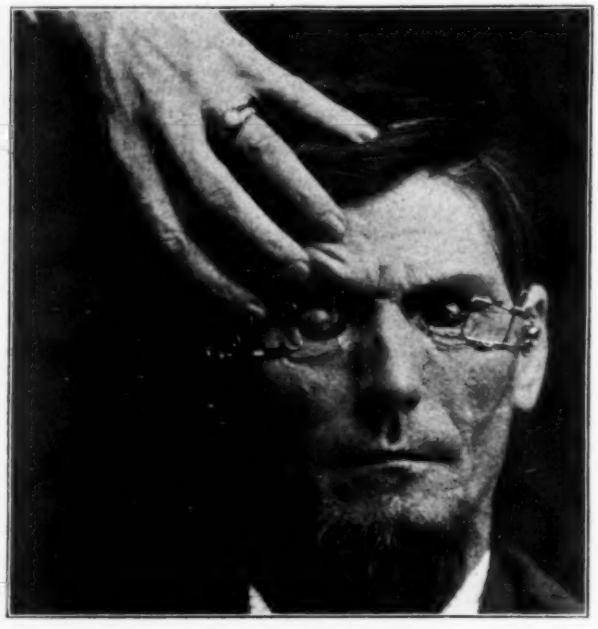

FIG. 1.

Left eye: A pterygium-like mass, starting from the outer canthus, extends to, and encroaches 4 mm. upon the cornea. At the outer canthus it is 3 mm. wide, and gradually increases to 9 mm. on the cornea. The corneal part is whitish in color and about 2 mm. thick. Another pterygium-like mass, 4 mm. wide, extends from the inner canthus to the margin of the cornea. This is the most recent growth. V. = $^{19}/_{XXX}$.

On February 11th, under cocaine, I removed rather more than one-half of the growth on the cornea of the right eye. I found the cornea very vascular, and, as a result, there was considerable hæmorrhage during the operation. A piece of

conjunctiva 3 or 4 mm. wide, which included the enlarged blood-vessels, was removed from the temporal and painful nasal sides, extending from the canthi to the sclero-corneal margins. The conjunctival wounds were sutured, a one per cent. solution of atropia sulphate instilled and the eye was bandaged. The reaction was very slight, and under antiseptic treatment the conjunctival wounds healed promptly, and the corneal epithelium is now gradually being restored.

I regret now that I did not remove the entire corneal growth at once, but at the time I was afraid of sloughing of the cornea. I shall remove the remainder shortly and *hope* to get a perfectly smooth, but of course opaque cornea.

On the same day I removed the growths from the left eye. The one on the temporal side was removed from the cornea as thoroughly as possible, as well as from sclera, to which it was found firmly attached. The conjunctival wounds were sutured, and under antiseptic treatment healed very kindly. The corneal wound is gradually healing.

What the final outcome will be, only time can tell.

RESULTS OF THE MICROSCOPICAL EXAMINATION OF THE TUMORS.

By ADOLF ALT, M.D.

ABOUT a year ago I received the specimen of a tumor, which was termed a papilloma of the cornea, from a colleague.[1] He could furnish no history of the case, and the tumor showed such peculiar conditions that I hesitated to describe it. I also hoped that some day I might hear and see more of the case, as it appeared probable that by this original removal of a piece, a relapse was in no way prevented. This relapse evidently came on very promptly. In my studies of the four tumors kindly turned over to me by Dr. Shoemaker, who also had given me a chance to examine the patient before the operation, I have thus luckily been enabled to compare the piece originally removed with the tumor recurring in the same location as well as with the most recently

[1] Dr. J. M. Ball.

developed tumor on the nasal side of the left eye and the old tumors on the right eye.

I suppose it is best to begin with the description of this youngest tumor on the left eye.

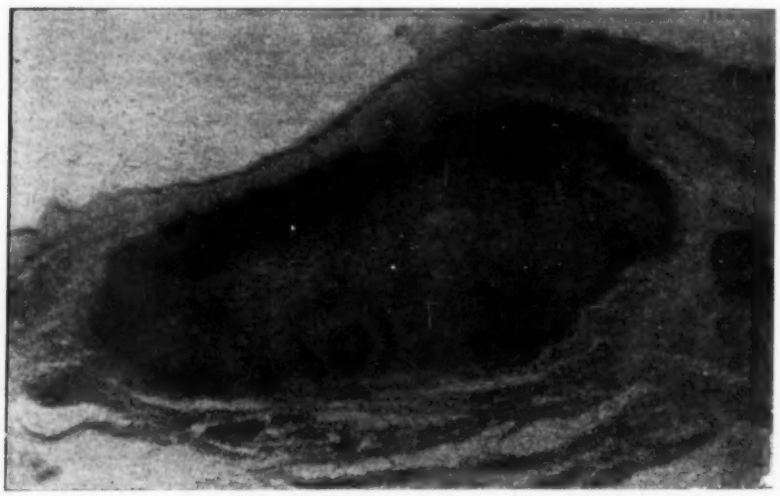

Fig. 2.

It consists in general of a highly vascular connective tissue stroma, which is here looser, there denser, and is thickly infiltrated with round cells. The surface of this tumor is almost smooth. There are especially not many papilla-like structures. The epithelial covering is, however, of many times the thickness of the normal conjunctival epithelium. Yet this increased thickness of the epithelium is in no way uniform. As just stated, in some places only are small papillæ of connective tissue found, which are divided from each other by corresponding indentations of the epithelial layer. This is particularly the case at the corneo scleral margin, that is, in the neighborhood of the locality where in the norm we find several epithelial pegs dipping down into the corneo-scleral and conjunctival tissue. The general character of this layer is that of pavement epithelium. The infiltration with round cells has spread into this layer also.

The connective tissue stroma shows in many places the peculiar hyaline degeneration which we find in pinguecula

and pterygium, so that from a casual observation this most recent tumor might be looked upon simply as such a growth being in a state of inflammation due to outside infection, were it not for the fact that this tumor contains numerous perfectly characteristic trachoma granules. Trachoma granules are, but in comparatively rare instances only, found in the bulbar conjunctiva and even in the corneal periphery, but I have never found them as numerous as in this case. (Fig. 2).

In the most peripheral parts I found a few transverse sections of glandular ducts, which were evidently pulled toward the cornea with the growth of the tumor.

FIG. 3.

In this part the epithelial covering of the tumor shows peculiar alterations as I have found them often on the caruncula lacrimalis and semi-lunar fold of corpses and which are probably due to exposure to the air, evaporation of the fluid contents of the cells and a drying up of the same. The illustration (Fig. 3) gives a very good idea of these changes which give the surface the "stippled" appearance. Numerous cells have undergone first vacuolization and then death from drying out and in their places we find larger and smaller cavities in which here and there the shrivelled cells are still found.

In other places the dead cells have fallen off and thus the microscopical cavities appear perfectly empty.

In four or five sections only I found the beginning of an epitheliomatous character near the corneal apex of the tumor signified by a few, but unmistakable epithelial cell-cylinders which grow into the depth of the tissue from the epithelial layer. (Fig. 4).

The next youngest tumor is the one which recurred on the temporal side of the left eye, after having been removed a year ago.

FIG. 4.

This tumor also consists in general of a connective tissue which, however, is very dense, so that in many places it resembles the tissue of the sclerotic. It, too, is very vascular and highly infiltrated with round cells. In the portion which lay upon the corneo-scleral and corneal tissue a decidedly papillomatous character is developing. As in the former tumor the round cell-infiltration reaches into the epithelial layer. The latter is very thick, many times the thickness in the norm.

In the dense stroma the hyaline degeneration of the tissue is less marked but still plainly visible. There are but few trachoma granules in this tumor and they lie at the periphery near the transition fold. The peculiar alterations of the epithelial layer are wanting in this tumor, except in a few very small localities. This tumor, however, shows a great many more epithelial cylinders growing into the depth of the tissue than did the youngest tumor, especially near the corneo-scleral margin.

The originally separate two tumors which had for many years grown on the right eye, had grown perfectly over the cornea, and meeting here, united into one tumor.

The part of this tumor growing onto the cornea from the temporal side is essentially of a papillomatous character. The bulk of the deeper tissue is a dense connective tissue containing innumerable blood-vessels. It is infiltrated with round cells, but to a lesser degree than in the more recent tumors. The hyaline degeneration, too, is not so pronounced. The tissue forms numerous smaller and larger papillæ, each provided with blood-vessels and covered by epithelium of an enormous thickness, which in turn is covered by several layers of dead horny cells. A dense mantle of round cells accompanies the blood-vessels into every papilla. At the corneo-scleral margin the growth has the well-known cauliflower appearance, the papillæ being separate from each other; on the cornea itself it is comparatively smooth, since the epithelium forms one continuous covering at this part.

The portion of this tumor growing from the nasal side corresponds in its structure almost altogether with the most recent tumor on the nasal side of the left eye. It, also, consists of a more or less dense, highly infiltrated connective tissue which in parts shows hyaline degeneration. The infiltration with round cells reaches well into the epithelial layer. There are numerous trachoma granules in this tumor, but not so many as in the tumor from the left eye. Near the cornea the papillomatous character is beginning to develop. The epithelial layer in general is very considerably thickened. In the most peripheral part towards the caruncula lacrimalis the epithelial layer has undergone the same alterations as

that of the most recent tumor and which, if I am correct, are due to exposure to the air.

The original tumor removed, about a year ago, in connection with quite a little piece of cornea, while in many points very similar to the tumors just described, differs in others very materially.

The amount of connective tissue in this tumor is but comparatively small, excepting close to the cornea. It is everywhere infiltrated with round cells. Within the main part of the tumor the connective tissue chiefly forms trabeculæ between large round cell accumulations, probably trachoma granules which have coalesced and make up most of the tumor tisssue. (Fig. 5). These have almost the appearance of lymphadenomatous tissue.

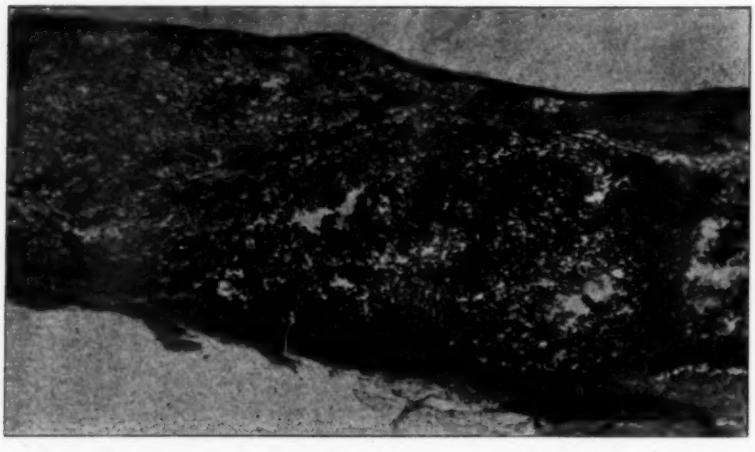

FIG. 5.

The round cells vary greatly in size and are not as densely packed as in the more recent granules, but are separated from each other by numerous small cavities which can be looked upon as the result of a regressive metamorphosis in many of the cells or may be the expression of an œdematous condition during life. Like the amount of connective tissue that of the blood-vessels is less in this tumor. The epithelial covering in general is not as enormously thickened and its surface is comparatively even. Yet, in parts, it sends larger pegs into the depth of the tissue between which small

connective tissue papillæ with blood-vessels may be recognized here and there, which have evidently been in existence at a former period, but of late have atrophied. (Fig. 6). The epithelial elements also show evidences of retrogressive metamorphosis by vacuolization of the cells and an evidently total disappearance of large numbers of them. In consequence, like the round cell accumulations, the epithelium appears on section sieve-like. (Fig. 7). The cavities frequently contain immigrated round cells, and in some places there is a rupture in the continuity of the outer epithelial layers through which round cells are escaping, as if small abscesses were breaking through to the surface.

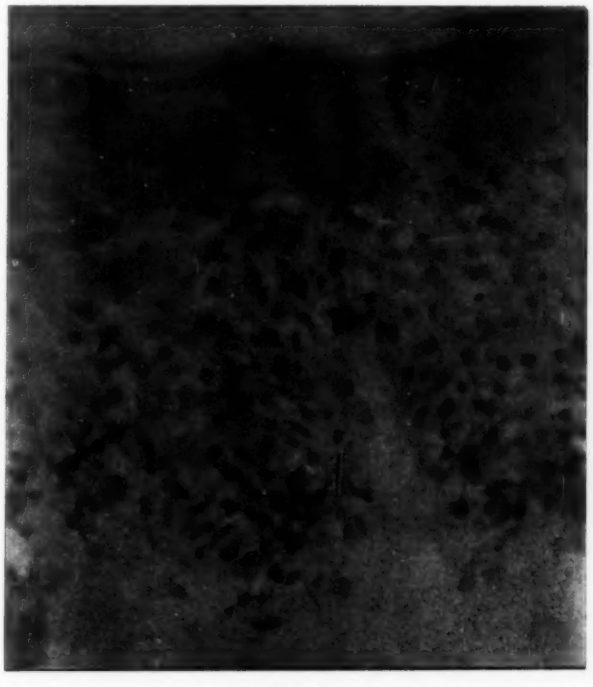

FIG. 6.

Near the cornea numerous smaller and larger epithelial cylinders are seen to have grown into the depth of the tissue. Here the tumor plainly has assumed an epitheliomatous character. Here and there I find a small pearl nodule.

The small portion of corneal tissue attached to the apex of this tumor, besides round cell infiltration, in some of the

sections shows particularly well the epitheliomatous characacter of this part of the tumor. In the deeper layers there is a great quantity of smaller and larger droplets of a probably colloid substance. (Fig. 8).

When comparing the conditions found in these, we may call it, five tumors, the following points are of interest:

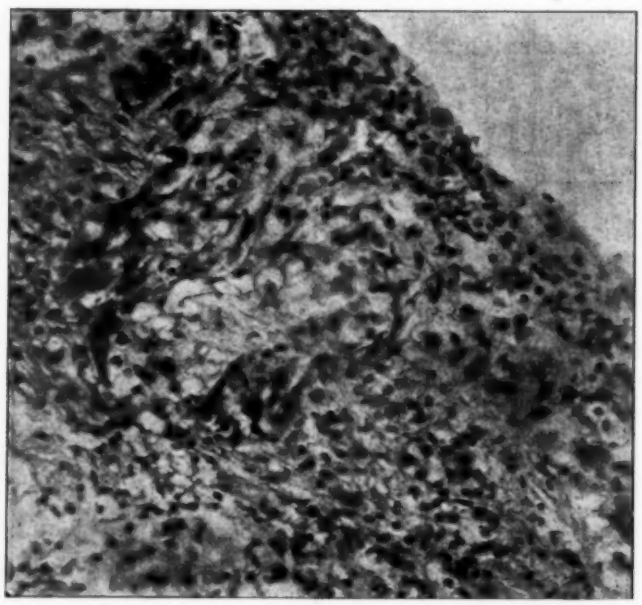

FIG. 7.

In the first place, the tumors as evidenced by the history as well as by their main structure, have all originated in the episcleral or conjunctival tissue, and have gradually grown toward the cornea, pulling the conjunctiva after them, as is the peculiarity of most similar tumors.

The denser or looser connective tissue which makes up the bulk of the tumors in nearly all of them contains trachoma granules.

While the youngest tumor shows hardly any papillomatous arrangement, the older ones show decided evidences of such a character, and in the first-removed tumor degenerative and retrogressive changes have taken place in the trach-

oma granules, as well as in the papillæ and their epithelial covering.

All of the tumors show a highly-developed vascularity and a round cell infiltration which reaches into the very epithelial covering, in places breaking through the latter to the surface.

All of the tumors show evidences of a change to malignancy by the development of epithelial cylinders which grow into the depth, more particularly near and at the corneoscleral margin, as we are wont to find in cases of epithelioma of the conjunctiva.

FIG. 8.

The peculiar .changes found in the epithelial layer, I think, are due to the influence of the drying effect of the air.

We have then, it seems to me, to deal with mixed tumors which were soft fibromata at first, became infected by trachoma, gradually developed a papillomatous structure and of late have taken on an epitheliomatous character.

I have a suspicion that, notwithstanding the patient's statement, that his eyes were perfectly normal up to the time when the first tumor appeared on the righ eye, the origin of these tumors may have been small congenital dermoids. In one of the tumors I found a small hair, yet, I am not per-

fectly certain that it had not gotten there by accident as it was attached to the base of the tumor.

Papilloma of the conjunctiva is surely a rare form of conjunctival tumor and but few cases have been reported in literature. The last one I know of was described in this Journal, Vol. XIV., No. 4, 1897, by Swan M. Burnett, who mentions similar observations by Hirschberg (*Centralblatt für Augenheilkunde*, 1884); Magnus (*Klinische Monatsblätter für Augenheilkunde*, 1887), and Weeks (*New York Eye and Ear Infirmary Reports*, January, 1896).

In Burnett's case the bulk of the tissue was epithelial in character and very vascular. In Volume III. of the "System of Diseases of the Eye," by W. F. Norris and Ch. A. Oliver, the same author in his article on "Diseases of the Conjunctiva and Sclera" again records this case and makes the following statement: "There is a form of polypoid growth called papilloma, or sometimes soft fibroma, which differs from the one just described, in being larger and usually with an uneven surface like a wart and having a structure similar to that of a condyloma. It grows by preference from the caruncle, but is found in the palpebral conjunctiva also. In typical cases, the structure is truly papillomatous—a central vessel for each papilla with some connective tissue elements, but mostly composed of epithelium, arranged quite regularly in layers, squamous on the surface and columnar in the deeper parts."

In our case the most peculiar fact is that four such tumors developed, two in either eye and more or less in the portion corresponding to the palpebral fissure, and that these tumors started, not from the caruncle or palpebral conjunctiva, but from the episcleral tissue.

These tumors, which were originally, it seems, of a benign character, have of late plainly taken on a malignant one, and I suppose there will, in spite of the clean removal by Dr. Shoemaker, be a future history of relapse.

THE ALUMINIUM-NICKEL EYE-SHIELD.

By RUSSELL MURDOCH, M.D.,

BALTIMORE, MD.

THE shield which was favorably mentioned by Dr. Theobald in the December, 1899, number of the AMERICAN JOURNAL OF OPHTHALMOLOGY is made of aluminium, nickel-plated. A sheet of the metal is cut in the shape of a Maltese cross with irregular arms; these are bent so as to form an irregular shallow cup; the irregular length of the arms is such as to

THE ALUMINIUM EYE-SHIELD APPLIED.

cause the margins to fit the inequalities of the face. If the arms are bent in one direction it will make a shield for the right eye, and, if reversed, for the left. There are openings in the shield for the purpose of ventilation, in addition to the spaces between the arms. It is in the greater ventilation and the improved shape that my shield differs from that of Snellen. (See Illustration).

After dressing the eye with gauze and absorbent cotton the shield is applied and held in place by narrow strips of adhesive rubber. I have used these shields for five years with uniform satisfaction.

NOTE ON OVOID GLASS BALLS.

I will briefly describe ovoid glass balls which I have used in a different manner from that in use by others. I have already answered some questions of Dr. de Schweinitz relative to them, but I do not suppose that will interfere with the originality of this short account.

I have made them of toughened glass, and of an ovoid shape. After the stump has healed I place one in the socket with the artificial eye over it. I have found that this mode of using the glass ball removes in a great measure the sunken appearance of the eye. In addition, where the socket is inflamed and secreting it is well borne and speedily cures this condition.

The shield can be obtained from Charles Neuhaus, 510 Eutaw street, and the glass balls from Charles A. Enker, corner Lexington and Liberty streets, Baltimore, Md.

PAMPHLETS RECEIVED.

"Injuries of the Eyeball," by W. L. Dayton.

"A Case of Retinitis Circinata," by G. E. de Schweinitz.

"Syphilis of the Eye and Its Appendages," by Ch. S. Bull.

"The Diagnosis of Tubercular Arthritis," by Ph. Hoffmann.

"Imperfect or Deficient Urinary Excretion, Etc.," by L. D. Bulkley.

"A Review of Some of Our Newer Remedies," by W. L. Dayton.

"Syphilis of the Nose, Throat, and Larynx," by P. T. Vaughan.

"Thirty-First Annual Report of the Brooklyn Eye and Ear Hospital."

ABSTRACTS FROM MEDICAL LITERATURE.

By W. A. SHOEMAKER, M.D.,

ST. LOUIS, MO.

INFLUENCE OF SCHOOL LIFE ON VISION.

Peter A. Callan (*New York Medical Journal*, January 20, 1900) thinks our school children have entirely too much to do, too long hours, and not enough recesses. The result of this, together with badly lighted and poorly ventilated school-rooms, is that myopia among all the children, but especially those in the high grades, is rapidly increasing. In 1875, the first examination of school children's eyes in the United States was made. Since then a great many have been made, with uniform results. In peasant schools 1 per cent. of myopia was found; this gradually increased in the towns and large cities, until in certain classes in the universities as high as 75 per cent of the students were near-sighted.

THE QUESTION OF OCULAR TENOTOMY.

E. H. Linwell (*Journal of Ophthalmology, Otology and Laryngology*, October, 1899) concludes a paper on this question with the following aphorisms:

1. Send your patient to a thorough, careful and conservative oculist.

2. Be sure that all errors of refraction, even though slight, have been carefully corrected. The author is satisfied that many nervous and asthenopic symptoms result from very slight errors of refraction in persons of a susceptible nature, although he is well aware that many oculists differ from him in this opinion.

3. Be sure the frames fit the patient's face properly.

4. Be sure that a reasonable time of systematic exercises for the development of weak muscles, either with or without the use of electricity, has been made.

5. If you have eliminated other sources of reflex disturb-

ances, so that you are reasonably sure that the existing symptoms are directly dependent upon the heterophoria, advise tenotomy.

MALIGNANT TUMORS OF THE EYE.

Wm. H. Wilder (*Medicine*, December, 1899) asserts that the malignant tumors affecting the conjunctiva are usually epithelial, although sarcoma sometimes appears at the sclero-corneal junction. Primary tumors of the cornea are extremely rare. New growths of the iris are not common. Of all tumors affecting the eyeball those most to be dreaded occur in the choroid, ciliary body, and retina. There are four stages in the clinical history of these cases: (1) A period of early growth before there is any irritation; (2) a period of inflammation; (3) perforation of the eyeball and extension of the tumor outside of the eye; (4) metastasis.

METASTATIC OPHTHALMIA FOLLOWED BY DEATH.

Temen (*Journal of the American Medical Sciences*, Jan., 1899, p. 170) describes a case of streptococcus infection arising from a small polyp of the uterus, which led to inflammation of the right knee-joint, and on the following day to a right ophthalmia. After her death, seventeen days later, it was not possible to say whether the choroid or retina had been first involved. Besides the ocular changes there was a degeneration of the myeline sheaths of the opticnerve-fibres which could be followed up through the chiasm and tracts.

THE SURGERY OF THE SUPERIOR CERVICAL SYMPATHETIC GANGLION.

Geo. E. Suker, in a paper read before the Northwestern Ohio Medical Association, December 8, 1899, recommended very highly the removal of the superior cervical sympathetic ganglion in chronic simple glaucoma, chronic irritative glaucoma without prodromes, and in simple atrophy of the optic nerve. The author reports a case of simple optic atrophy in which he removed both superior cervical sympathetic ganglia. For two years before the operation the patient had only faint form-perception at two feet. Two weeks after the operation he could distinctly recognize the hand at six feet.

SOME OF THE CAUSES OF FAILURE TO RELIEVE ASTHENOPIA AND ALLIED SYMPTOMS.

F. W. Marlow (*Medical News*, January 6, 1900) divides asthenopia into two classes—curable, and incurable. Failure to relieve the curable form may be the fault of the patient or oculist, or may be due to an extreme latency of some of the errors of refraction and heterophoria. In many of the incurable cases it is only after repeated examinations that the true condition can be determined, but when the incurableness of the case is once firmly established the patient should be advised to change his occupation to suit his eyes. The author reports a number of cases which tend to show how difficult it sometimes is to relieve this class of cases.

ENOPHTHALMUS.

E. Treacher Collins (*British Medical Journal*, September 30, 1899) says enophthalmus should be divided into two classes—traumatic, and non-traumatic. In a number of cases of the latter variously reported, the defect was evidently congenital, and was due to shortness of the muscles. In five cases of the traumatic variety it seemed to be due to a contraction of the inflammatory products, the result of orbital cellulitis.

ANOMALOUS PUPILLARY REACTION IN MENINGITIS.

Albert Seitz (*New York Medical Record*, December 2, 1899) reports a case of meningitis in which the pupils dilated under the influence of light and contracted in the dark. The child died, but no autopsy is reported.

BILATERAL IRITIS OF MALARIAL ORIGIN.

M. Pechni (*Le Progres Médical*) says that malarial diseases seldom attack the iris. He had, however, observed a case of bilateral iritis occurring in the right eye during a first attack of intermittent fever, and in the left eye five or six years later during a second attack. The patient was a woman, 48 years of age. There were no specific antecedents. The author thinks the occurrence of the ocular phenomena during the malarial attacks warrants the statement as regards the etiology.

SCABIES OF THE CORNEA.

Saemisch (*Medicinisch-Chirurgisches Centralblatt*, January 12th) reports the case of a rustic lad who had keratitis accompanied by a little projecting mass in the middle of the cornea. One day a shred was seen hanging down from this point and it was torn away with forceps. On examination it was found to contain a typical female acarus, near which there lay light ova in different stages of development.

HOLOCAIN VERSUS COCAINE IN OPHTHALMIC PRACTICE.

H. Knapp (*Archives of Ophthalmology*, May, 1899), after the daily use of holocain for more than a year, has come to the following conclusions:

1. It is as powerful a local anæsthetic as cocaine; over which it has several marked advantages: (*a*) It acts (1 per cent. solution) in a certain time—one-third to one minute, which makes its use very valuable, particularly if we want to anæesthetize the iris. After a corneal section, either for glaucoma or cataract operation, we can readily anæsthetize the iris by pressing the wound open and letting one or two drops into the gap to reach the iris. (*b*) It does not interfere with the circulation, which accounts for its alleged germicidal properties. The outflow of blood during an operation carries the germs away from the wound, and thus has a tendency to prevent infection. Cocaine, by its constriction of the blood-vessels and other tissues, sucks tissue juice and germs inward, and thus favors infection. (*c*) Holocain does not dry the cornea so much as cocaine does. I can not confirm the statement that it does not dry the cornea at all. Holocain, not interfering with the circulation, possibly dries the cornea only because the anæsthesia gives no incentive to wink.

2. For operative work, especially on the cornea, I have almost completely substituted holocain for cocaine. For the removal of foreign bodies, holocain is an ideal anæsthetic. It renders the cornea insensible in half a minute, and does not suck in germs that may have contaminated the foreign body.

3. Cocaine is an anæsthetic but no remedy. In all painful diseases of the outer coats of the eye, it ought to be re-

placed by holocain. If, in contagious ophthalmia, we instill cocaine into the conjunctival sac, we may relieve the pain, but with the tissue juices the germs are sucked deeper; not so in using holocain. Holocain can be combined with topical remedies, but I do not countenance the popular combination of cocaine with astringents.

4. As to holocain being a strong germicide and an excellent remedy for septic ulcers of the cornea, as advanced by Haskett Derby, I can say that I have seen good results from the combined use of holocain and antiseptics and caustics; holocain alone also has had a good influence, but in my practice not in so large a proportion as Derby states.

Dr. Knapp concludes by saying that in holocain we have not only an excellent local anæsthetic, but also a valuable therapeutic adjuvant in combination with other remedies.

Dalén finds that 1 per cent. holocain affects the corneal epithelium even more than 4 per cent. cocaine does, but finds that neither holocain nor cocaine delays the healing of a corneal wounds. Holocain acts quicker in inflamed eyes, but cocaine has the advantage of contracting vessels and thus diminishing hæmorrhage during an operation.

Randolph (*Journal American Medical Association*, September 24, 1898) has demonstrated by experiments that holocain in the strength of 1 per cent. solution is a germicide.

Hinshelwood (*British Medical Journal*, September, 1898) concludes that holocain has no other effect on the eyes except the production of anæsthesia. It is not superior to cocaine, except in the rapidity of action. It is also a powerful antiseptic. Solutions do not keep longer than a fortnight.

Deneffe (*Annales d'Oculistique*, CXVII., p. 289) finds that holocain is an efficient local anæsthetic in the strength of 1 per cent.; does not cause pain, mydriasis, contraction of vessels, or paralysis of accommodation. The author believes it will take the place of cocaine and eucaine in ophthalmic practice.

Haskett Derby (*Archives of Ophthalmology*, January, 1899), after giving a brief record of his experience with holocain in ophthalmic practice, concludes as follows:

1. It does not cause mydriasis, and may, therefore, be

used without danger of bringing about an increase of tension.

2. It does not affect accommodation.

3. It brings about a greater degree of anæsthesia of the iris than does cocaine.

4. In cases of severe and painful inflammation, which resists cocaine, holocain often proves efficient.

5. Unless swallowed or injected subcutaneously, it produces no constitutional effects.

6. It has no effect on the corneal epithelium.

7. It is strongly bactericidal.

The writer recommends holocain, 1 per cent. solution, in ulcers of the cornea, attributing the good results to its germicidal properties.

Sneyirew's (*Ujest. Oph.*, XV., p. 3) experiments on rabbit's eyes proved that holocain favors diffusion. Comparative experiments with cocaine, 2 and 4 per cent., showed that the action of holocain was twice as great as that of cocaine. The author, therefore, advises replacing cocaine as an adjuvant to solutions of atropine, eserine, etc., by holocain, particularly in cases of increased tension.

[I find that holocain causes rather more smarting than a 4 per cent. solution of cocaine when first instilled into the eye. It also causes a temporary conjunctival and ciliary injection. It does not dilate the pupil or affect accommodation. Regarding its effect on the cornea, I can not agree with some observers in the statement that it does not dry the epithelium. However, I think it affects the cornea much less than cocaine. In one case of tenotomy, my assistant, by mistake, kept the cornea moist with a 1 per cent. holocain solution instead of a 1:10,000 bichloride of mercury solution. After finishing the operation I noticed that the cornea looked quite hazy, and upon rubbing the lid over it a lot of its epithelium peeled off. In twenty-four hours it was restored, with the exception of a spot twice the size of a pin-head, which was restored within forty-eight hours, leaving a perfectly clear cornea. In iridectomies, cataract extractions, tenotomies, and removing foreign bodies, I have found it a very efficient anæsthetic. For removing growths of different kinds from the conjunctiva, I have not found it so efficient as cocaine, probably due to the fact that it does not constrict

the blood-vessels, thus allowing more hæmorrhage, which interferes with its coming in contact with the tissues.]

OCULAR EVIDENCES OF HYSTERIA.

Casey A. Wood (*American Journal of the Medical Sciences*, January, 1899) gives the histories of seven cases of ocular manifestations of hysteria. Some of the conclusions he draws from a study of these cases are the following: Some symptoms, such as reversal of the color fields, the tonic form of blepharospasm, spasm of accommodation, and convergence, and pseudo-paralytic ptosis, may be regarded as pathognomonic of hysteria. Defects of vision are, generally speaking (with otherwise normal conditions of the eye structure), hysterical, if accompanied by photophobia and any form of blepharospasm. Hysterical eye troubles are common in children and men.

A CASE OF MACULAR RETINITIS, DUE TO A FLASH OF ELECTRIC LIGHT.

Würdemann and Murray (*Ibid.*, May, 1899) report the case of a man blinded by a "short circuit" on a dynamo switch. The temporary blindness lasted a few minutes, followed by red images. Work was resumed in a short time, but pain in the eyes accompanied with congestion followed in the course of a few hours. The macular region was hazy and the inferior retinal veins congested. The visual field was contracted. Vision returned to normal in about two weeks.

MALARIAL INFECTION AS A FACTOR IN CAUSING EYE DISEASE.

Paul Turner Vaughan (*New York Medical Journal*, December 16, 1899) says the ocular manifestations of malaria differ according to whether they accompany an attack of the fever, or malarial cachexia. The most prominent symptom in malarial cachexia is the variation of the acuity of vision at different times. He reports a case in which the variation from $^{5}/_{XXIV}$ to $^{12}/_{XXIV}$ occurred twice within two weeks. The ophthalmoscope showing no sufficient cause for such variation. Improvement in vision immediately followed the administration of quinine. In a second case, there was a marked ptosis of the right eye with conjunctival congestion, dilata-

tion of pupil, cloudiness of cornea, tension slightly increased, and intense pain, with aggravation of all the symptoms at regular intervals, accompanying exacerbations of the fever. The ptosis disappeared entirely, and vision rose to what it was before the attack soon after beginning the administration of quinine.

TRANSIENT BLINDNESS.

George C. Harlan, at a meeting of the Section on Ophthalmology of the College of Physicians of Philadelphia, held January 16th, reported a case of transient blindness in a delicate, nervous woman 20 years of age, who complained of loss of vision in the left eye of three days' duration. She said that one month ago there had been double vision, which lasted three weeks, and was followed by almost complete blindness in the left. The right eye was normal in every respect. In the left, V. = ability to count fingers at four inches. The media were clear and the fundus normal, but various prism and confusion tests failed to reveal any higher degree of vision than she had admitted. Three days later there was absolute uniocular blindness. All attempts to produce diplopia failed, and the test suggested by Priestley Smith was deemed conclusive of actual blindness.

When the patient was directed to look at a flame, and a prism, base toward the temple, was placed before the blind eye, there was no deviation of either; when it was held before the right eye, there was evident deviation of both eyes to the left, with recovery after removal of the prism.

Dr. Harlan stated that in a considerable experience with hysterical blindness he had met with only one other instance in which he had been unable to demonstrate that the blindness was not real.

A CASE OF ACQUIRED SYPHILIS IN A CHILD; HUNTERIAN CHANCRE OF EYELID.

C. Hamilton Whiteford (*British Medical Journal*, January 6, 1900) reports the case of a child with Hunterian chancre on the eyelid, whose infection was due to the mother moistening the child's adherent lids with her sputum.

MEDICAL SOCIETIES.

PRELIMINARY PROGRAM FOR THE FIFTH ANNUAL MEETING OF THE WESTERN OPHTMALMO-LOGICAL AND OTO-LARYNGOLOGICAL ASSOCIATION, APRIL 5-7, 1900.

The fifth annual meeting of this Association will be held in the Planters Hotel, St. Louis, Mo., April 5-7, 1900. The following papers have thus far been announced:

Joseph Mullen, Houston, Texas: "Use of Mercurol as a Valuable Non-Irritating Antiseptic in Intra- and Extra-Ocular Suppurative Processes."

John J. Kyle, Indianapolis, Ind.: "Sympathetic Inflammation and Sympathetic Irritation of the Eye."

E. C. Ellett, Memphis, Tenn.: "Some Notes on the Use of Homatropine as a Cycloplegic."

J. W. Bullard, Pawnee City, Neb.: "Two Classes of Eye Cases That Give Me a Great Deal of Trouble."

Randolph Brunson, Hot Springs, Ark.: "Ametropia; Producing *Petit Mal* and Other Allied Affections."

Flavel B. Tiffany, Kansas City, Mo.; "The Eyes as an Index to Diseases of the Nervous System."

Adolf Alt, St. Louis, Mo.: "Studies Concerning the Anatomy of the Eyelids, Especially Their Glands."

H. B. Young, Burlington, Iowa: "Some Observations on Anisomelia."(?)

C. R. Holmes, Cincinnati, Ohio: "Foreign Bodies of the Orbit, With Report of Cases."

James Moores Ball, St. Louis, Mo.: "Technique of Excision of the Superior Cervical Ganglion of the Sympathetic."

B. E. Fryer, Kansas City, Mo.: "Report of a Case of Railway Trauma of Eye," With details of case, including suit brought by the patient against the railway company.

Ellet O. Sisson, Keokuk, Iowa: "A Visit to the Netherlands' Eye Hospital, Utrecht, Holland."

J. Ellis Jennings, St. Louis, Mo.: "Three Cases of Non-Specific Choroiditis in Young Women."

A. C. Graves, Pittsburg, Kansas: "On Conjunctivitis."

Hamilton Stillson, Seattle, Wash.: "Dry Treatment of Dacryocystitis."

OTO-LARYNGOLOGICAL SECTION.

A. E. Prince, Springfield, Ill.: "The Treatment of Intumescent Rhinitis."

M. A. Goldstein, St. Louis, Mo.: "The Tampon in Nasal Surgery." Also presentation of cases.

Thos. F. Rumbold, St. Louis, Mo.: "The Function of the Ossicula Auditus."

Geo. Knapp, Vincennes, Ind.: "Nasal and Naso-Pharyngeal Operations."

W. Scheppegrell, New Orleans, La.: "Tuberculosis of the Nose."

Geo. F. Keipper, LaFayette, Ind.: "The History of the Mastoid Operation."

J. O. Stillson, Indianapolis, Ind.: "Removal of Middle Turbinate for the Cure of Some Forms of Inveterate Eye Disease."

F. C. Ewing, St. Louis, Mo.: "Recurring Parotitis in a Healthy Child."

H. W. Loeb, St. Louis, Mo.: 1. Presentation of Case: "Laryngeal Papillomata of Four Years' Standing." 2. Presentation of Specimen: "One Hundred and Seven Polypi Removed at One Sitting."

O. Joachim, New Orleans, La.: "Purulent Meningitis of Otitic Origin." (Joachim and Kelley).

Wm. Porter, St. Louis, Mo.: "Hæmorrhage From the Upper Air Passages Simulating Hemoptysis."

Edwin Pynchon, Chicago, Ill.: "Slight Irregularities of the Nasal Septum."

Hal Foster, Kansas City, Mo: "Report of a Case of Myxo-Fibroma of the Naso-Pharynx."

In drawing the attention of our readers to the meeting of this prosperous and growing association we wish to state that from all appearances this promises to be an enjoyable and instructive meeting both scientifically and socially.

As a new feature a museum of interesting specimens will be open for inspection by the members.

The officers for 1899-1900 are: President, Wm. Scheppegrell, New Orleans, La.; First Vice-President, M. A. Goldstein, St. Louis, Mo.; Second Vice-President, H. V. Würdemann, Milwaukeee, Wis.; Third Vice-President, E. C. Ellett, Memphis, Tenn.; Secretary, F. C. Ewing, St. Louis, Mo.; Treasurer, W. L. Dayton, Lincoln, Neb.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Thursday, January 12, 1900.

G. Anderson Critchett, M.A., F.R.C.S. Edin., President in the Chair.

Experimental Exophthalmos and Enophthalmos.

Dr. Walter Edmunds read a paper in which he remarked that there were three ways in which prominence of the eye could be affected experimentally:

1. By acting on the sympathetic, either stimulating it or dividing it.
2. By the administration of certain preparations or drugs.
3. By operations conducted on the thyroid gland.

With regard to the first, stimulation of the cervical sympathetic produced: (1) Prominence of the eye; (2) widening of the palpebral fissure; (3) at first increase and later decrease of the intraocular tension; (4) erection of the hairs of the head.

Division of the sympathetic produced the opposite effect. Cocaine was one of those drugs which produced proptosis, widening of the palpebral fissure, dilatation of the pupil, and decrease in the intraocular tension. Cunningham has shown that feeding a healthy animal on thyroid extract produced similar results.

The author then showed photographs of monkeys and rabbits both before and after feeding on this substance. Ex-

ophthalmos after the administration of thyroid had once been observed in man by Beclère, where it appeared after excessive doses had accidentally been taken by a patient suffering from myxœdema.

The third method of affecting the prominence of the eyes was by operations of the thyroid. Removal of the thyroid might produce either exophthalmos or enophthalmos, but in the monkey usually the latter. Numerous lantern slides were shown of animals in which this had been done, as well as drawings of animals in which the sympathetic had been divided. The author summed up his results by saying that the discussion of these phenomena was particularly interesting in its bearing on the pathology and treatment of Graves' disease; in fact that the most important eye symptoms of Graves' disease could be produced by the administration of thyroid preparations certainly suggested that the eye affection was secondary to goître. He had not tried the effect of division of the sympathetic in feeding with thyroid extract, but with the administration of cocaine it diminished the effect produced. It, therefore suggested itself that the exophthalmos might be benefited by division of the cervical sympathetic, and, indeed, the operation had been tried several times in man. The results were said, however, not to be very satisfactory, at least as far as the general disease was concerned.

Mr. Lawford had reported one case of exophthalmos due to thyroid feeding; it occurred in a woman, 34 years of age, who had suffered from myxœdema for five years. She was treated with thyroid extract, and had greatly improved. Four years and a half later she had some recurrence, and was again put on thyroid, and this time she developed severe exophthalmos, but her subsequent history was unknown.

Mr. G. Mackay mentioned a case he had seen of enophthalmos following an operation on the glands in the neck in which the sympathetic had evidently been cut or injured. He also had a case of extreme exophthalmos in which half of the thyroid was removed and a good result followed.

Mr. Jessop mentioned a case in which a fatal result followed division of the sympathetic.

Mr. Juler had seen in Paris a case of glaucoma in which

the sympathetic had been divided; it produced many unpleasant symptoms without enophthalmos.

Dr. Brailey made some remarks, and Dr. Edmunds briefly replied.

A Case of a Cicatrix Horn Growing from the Cornea.

Mr. Arnold Lawson read a paper on this subject. He said that a careful search through ophthalmological literature had failed to discover another example of this courious condition.

The patient was a female child, 8 years of age, a hydrocephalic idiot. The history given was that about one year previously a white spot had appeared on the right eye, and that the eye began to project. Six months later a growth was first noticed on the right cornea, and this had constantly increased in size. Latterly a white spot had appeared on the left eye. On examination of the eyes, there was seen a large conical tuberculated excrescence protruding between the lids of the right eye. It was half an inch in length, and its base attached to the cornea covering about four-fifths of its surface. The left cornea exhibited a yellowish infiltration just below the pupil over which the cornea was bulging; the anterior chamber was deep, the iris immobile, the tension slightly raised, and the eye quite blind. Both globes were very anæsthetic, and there was considerable muco-purulent discharge from a chronic inflammation of both conjunctival sacs. The growth upon the right eye was accidentally detached a few days after admission into the hospital, and it was then seen to have been attached to the cornea at the apex of a central staphyloma which was left covered by a fleshy soft core which had formerly been embodied in the center of the growth. The cornea was entirely opaque, and the eye quite blind. After removal of the right eye a few days later, examination of the globe revealed a detached retina with evidence of chronic degenerative changes in all the various structures. The anterior chamber was completely abolished, the iris throughout its extent being firmly adherent to the back of the cornea, which was bulging centrally. The apex of the corneal staphyloma had evidently been the site of a large perforation which was closed by the fleshy granu-

lations which formed the core of the growth. The growth itself measured 1/2-inch from apex to base, and 1 1/2-inches round its base. The interior portion was soft and crumbling but the external layers were hard and horny, and cut with difficulty. A wedged-shaped piece was cut away from the growth, and specimens cut and stained with carmine. The microscope showed that the external layers consisted of several faintly-fibrillated strata of a dense homogeneous nature. The layers occupied about one quarter of the entire thinkness of the walls, the rest being entirely composed of small nucleated cells, those most external being stratified.

Adopting Mr. Bland-Sutton's classification of human horns, this growth would be an an example of a cicatrix horn, the rarest of all varieties of horn, and which has usually been found in connection with the cicatrices of burns and scalds. The probable etiology of this case was an overgrowth of granulation tissue closing the perforation in the cornea, and which, owing to an unhealthy condition of wound and eye, which was anæsthetic and atrophic, had become exuberant, simulating exactly the condition known as "proud flesh" elsewhere. By a process of accumulation and heaping up the granulations gradually formed a cap over the cornea, whilst the external layers gradually became stratified and horny from the pressure of new growth from the central core and by the action of the air. The nature of the growth was evidence that the corneal epithelium bore no share in its production, and discounted the possibility that it might be due to a huge crust of inspissated conjunctival discharges.

Remarks were made by Dr. Gruber, Mr. Treacher Collins and Mr. Devereux Marshall.

Glaucoma Following the Use of Homatropine.

Mr. Shears read notes of a case of acute glaucoma following a single application of homatropine.

A woman, 52 years of age, came to the Liverpool Eye and Ear Infirmary in October, 1899, for reading glasses. With her hypermetropia corrected her distant vision was nearly 2/3 of normal. One or two drops of homatropine, 4 grains to the ounce, were put into the right eye. When she

came again to the Hospital a week later she had all the signs of acute glaucoma in this eye, and she could only just count fingers. Pain and vomiting and great loss of sight came on the same evening that the homatropine was used. Eserine and leeches were tried for two hours but without benefit. Iridectomy was then performed, with the result that the tension and sight were quite restored in ten days, and had remained satisfactory.

The author was of the opinion that no mydriatic should be put into the eyes of persons over 30 years of age without careful consideration; that if homatropine were used it would be well to instil eserine before the patient left the hospital; cocaine followed by eserine was usually quite sufficient for ophthalmoscopic examination, or the new pupil dilator —euphthalmine—would be found very satisfactory for this purpose. Very few cases were published of glaucoma after homatropine, and the accident appeared to be very rare.

Card Specimens.

The following card specimens were shown: Mr. E. E. Henderson—Microscopic sections of growths from the upper palpebral conjunctiva. Mr. A. Q. Silcock—Persistent hyaloid artery arising from a central coloboma of the choroid. Mr. W. T. Holmes Spicer—1. Detachment of the choroid; 2. Primary optic atrophy associated with diabetes insipidus. Mr. L. V. Cargill—Fibromata in eyelids. Mr. Doyne—1. Peculiar appearance in cornea; 2. Extreme case of essential shrinking of the conjunctiva; 3. Unusual case of striated keratitis. Dr. Still—Infantile cerebral degeneration with symmetrical changes in the macula. Mr. Juler—Case of pemphigus of the conjunctiva.—*British Medical Journal.*

PAMPHLETS RECEIVED.

"The Old New York Hospital," by D. B. St. John Roosa.

"The Climate of Colorada for Respiratory Diseases," by Ch. Denison.

"Contribution to the Theory of Sclerosis of the Cornea," by K. Tendering.

OBITUARY.

ALBERT MOOREN.*

We are again called upon to mourn the death of one of A. von Graefe's oldest pupils, the highly talented and meritorious oculist, ALBERT MOOREN.

He was born at Oedt, near Kempen, on the nether Rhein, in 1828, and received his primary education at Kempen and at the Catholic Gymnasium at Koeln. He studied medicine first at Bonn, under Weber, Wutzer, Harless, Kilian and Bischoff; then at Berlin, under Johannes Mueller, Juengken, Traube, Baerensprung and A. von Graefe. It was there that he made his doctorate in 1854, and passed the State's examination in 1855. The near relations into which, while still a student, he entered with Albrecht von Graefe had a deciding influence upon him, and he studied ophthalmology zealously at Graefe's private hospital. He first practiced general medicine in his native city of Oedt, but soon made a name for himself throughout the Rhenish provinces by a successful eye-operation, and was, in 1862, called to Duesseldorf to assume the direction of the Municipal Eye Hospital. He was the head of this institution for 21 years and there displayed an immense, especially operative, activity. Patients came from near and far, not only from the Rhenish provinces, but also from Belgium, Holland, England and France. The highest circles honored Mooren with their confidence. Even the Directorship of the Eye Hospital at Lüttich was intrusted to him in 1868. He traveled there every four to six weeks in order to perform the more important eye operations. In 1878 he resigned this position, as also in 1883 the Directorship of the Duesseldorf Eye Hospital. Yet, he retained an extensive private ophthalmic practice until his death. He received the titles of Professor and Secret Medical Counsellor (Geheimer Medicinal Rath) from the Goverment. The city of Duesseldorf exalted him by conferring on him the honorary citizenship. In 1887, during the International Medical Congress held at Washington he fell dangerously ill with dysen-

*J. HIRCHBERG in "Centralblatt für Prakt. Augenheilkunde."

tery; under the tender care of Prof. Mendel, however, he succeeded in safely returning home, and gradually recovered from the sequelæ of this insidious disease. His happy family life was severely disturbed by the death of his eldest son, who, at Marburg, saved a child from drowning, but in the act lost his own life. In 1896 Mooren went to the International Medical Congress at Moskow, and in 1898 he presided over the Congress of German Physicians at Duesseldorf. In the last winter, however, he could not take his usual trip to Berlin, and died after a short illness in the evening of the last day of the year 1899.

Aldert Mooren was a very fruitful writer in his specialty. He has materially assisted in the building up of what we call modern opththalmology. However, those who knew him from literature only, can not fully appreciate him; he had to be seen at the operating table; he was one of those blessed artists who are born but rarely; aside from this he was a noble man, deeply religious, full of warm love for humanity, one who naturally imbued his patients with the greatest confidence. Of course, on account of his successes, he was envied by some; but to his friends he was a warm friend. Our professional friendship has lasted for 32 years without the slightest disturbance. His memory will remain fresh, not only in science, but also in the hearts of those whom he benefited.

The following is a list of his most important works:

(1) On Retinitis Pigmentosa, Duesseldorf, 1852; (2) Diminishing the Dangers of Suppuration of the Cornea after Cataract Extraction, Berlin, 1862; (3) Treatment of Conjunctival Diseases, Duesseldorf, 1865; (4) Ophthalmiatric Observations, Berlin, 1867; (5) Sympathetic Eye Troubles, Berlin, 1869; (6) Ophthalmological Communications, Berlin, 1874; (7) On Blood-Vessel Reflexes in the Eye (together with Rumpf), *Centralblatt f. Med. Woch.*, 1880; (8) The Pathogenesis of Sympathetic Eye Troubles, *Klin. Monatsbl. f. Augenh.*, 1881; (9) Visual Troubles and Uterine Disease, *Arch. f. Augenh.*, X; (10) Contributions to the Clinical and Operative Treatment of Glaucoma, Duesseldorf, 1881; (11) Five Lustra of Ophthalmic Practice, Wiesbaden, 1885; (12) Skin Affections and Eye Diseases, Wiesbaden, 1885; (13)

Some Remarks on the Development of Glaucoma, *Arch. f. Augenh.*, XIII; (14) Eye Troubles in their Relation to Occipital Disease, International Medical Congress at Washington, 1887; (15) The Simplest Method of Cataract Extraction; (16) Eye Troubles and Compensation, *Klin. Monats. f. Augenh.*, 1890; (17) Massage in Eye Disease, *Arch. Méd. Belg.*, 1890; (18) The Eye Troubles of Laborers and the Compensation Demanded for Them, Duesseldorf, 1891; (19) The Limits of Cataract Discission, *Deutsch. Med. Woch.*, 1893; (20) The Operative Treatment of Naturally or Artificially Ripened Cataract, Wiesbaden, 1894; (21) The Operative Treatment of Myopia, Wiesbaden, 1896.

Albert Mooren was of excellent general culture and was a student of philosophy, of modern languages, especially Spanish, and he re-edited the "Chronicles of the Diocese of Koeln," which originally had been published by his uncle.

BOOK REVIEWS.

A Pocket Medical Dictionery. Giving Pronunciation and Definition, Ect. By George M. Gould, A.M., M.D. Fourth Edition, revised and enlarged. Thirty thousand words. [P. Blakistons' Son & Co., Publishers, Philadelphia, Pa. Price, $1.00.]

A very useful little reference book for the class of people to whom it appeals. Alt.

EDITORIAL NOTE.

With the January (1900) number the founder and editor of the *Klinische Monatsblätter für Augenheilkunde*, Prof. Dr. W. Zehender has given up his almost lifelong connection with this well-known journal. He has well earned the rest which he may now enjoy, having reached the ripe age when man gladly relinquishes his arduous labor to younger hands. His successors are Prof. Dr. Th. Axenfeld and Prof. Dr. W. Uhthoff, both well known to the literary ophthalmic world by their works, with a large staff of collaborators of high standing. They have our best wishes.